

Figure 1

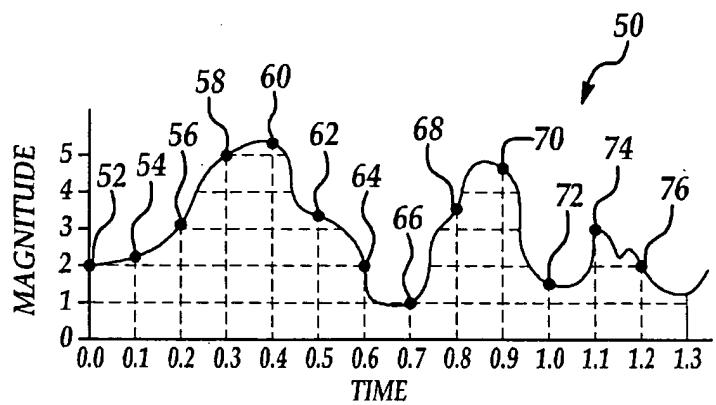


Figure 2

0.0	00000010	78	76			76'
0.1	00000010	80				
0.2	00000011	90	+ KEY (K1)	=	01010010	
0.3	00000101	92				90'
0.4	00000101	94				
0.5	00000011	96	+ 01001111	=	01010010	
0.6	00000010	98				96'
0.7	00000001	100				
0.8	00000100	102	+ 01001111	=	01010011	
0.9	00000101	104				102'
1.0	00000010	106				
1.1	00000011	108	+ 01001111	=	01010010	
1.2	00000010	110				108'

Figure 3

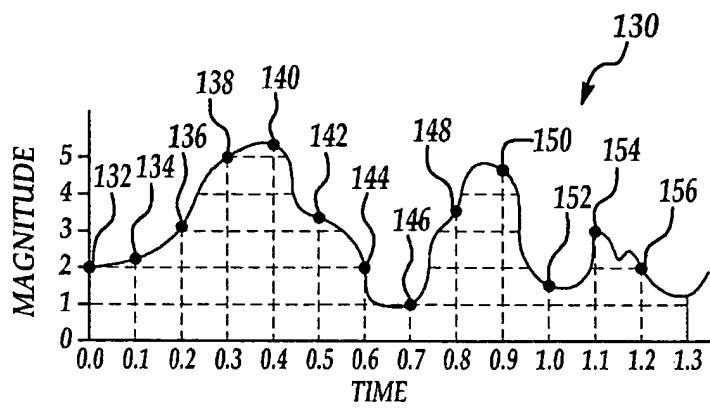


Figure 4

Figure 4

0.0	00000010	~158	KEY (K2) 01010000 \sum 184	= 01010011 \sum 162'
0.1	00000010	~160		
0.2	00000011	~162		
0.3	00000101	~164		
0.4	00000101	~166		
0.5	00000011	~168		
0.6	00000010	~170		
0.7	00000001	~172		
0.8	00000100	~174		
0.9	00000101	~176		
1.0	00000010	~178		
1.1	00000011	~180		
1.2	00000010	~182		

Figure 5

Figure 5

ATM CELL STRUCTURE FOR DATA MESSAGE

HEADER ID START TIME DATA MESSAGE
5-BYTES 1-BYTE 1-BYTE 46-BYTES



Figure 6

ATM CELL STRUCTURE FOR KEY MESSAGE

HEADER ID KEY MESSAGE FILLER BYTES
5-BYTES 1-BYTE 1-BYTE 46-BYTES

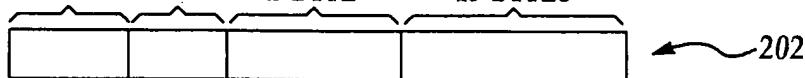


Figure 7

ATM CELL STRUCTURE FOR DATA MESSAGE AND KEY MESSAGE

HEADER KEY MESSAGE DATA MESSAGE
5-BYTES 1-BYTE 47-BYTES

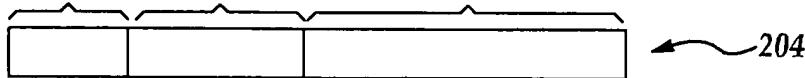


Figure 8

CALCULATION OF FIRST MODIFICATION KEY VALUE (K1) FOR FIRST DATA MESSAGE

MONTH DAY YEAR HOUR MINUTE

$$12 + 18 + 03 + 16 + 29 = 78 = \boxed{01001110}$$

$$+ \boxed{00000001}$$

VOICE
SAMPLE

$$\boxed{01001111}$$

KEY (K1)

Figure 9

CALCULATION OF SECOND MODIFICATION KEY VALUE (K2) FOR FIRST DATA MESSAGE

MONTH DAY YEAR HOUR MINUTE

$$12 + 18 + 03 + 16 + 30 = 80 = \boxed{01001111}$$

$$+ \boxed{00000001}$$

VOICE
SAMPLE

$$\boxed{01010000}$$

KEY (K2)

Figure 10

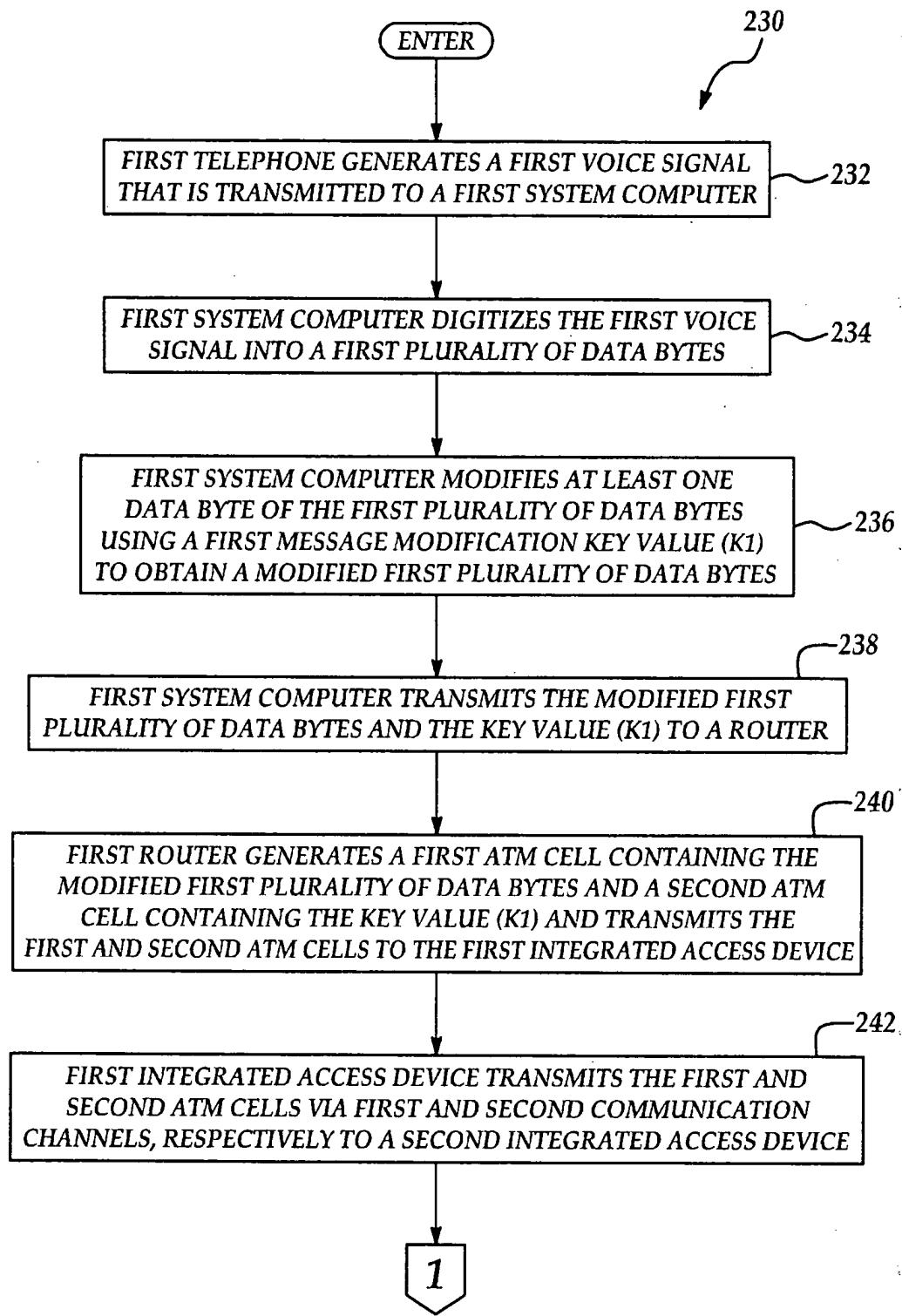


Figure 11A

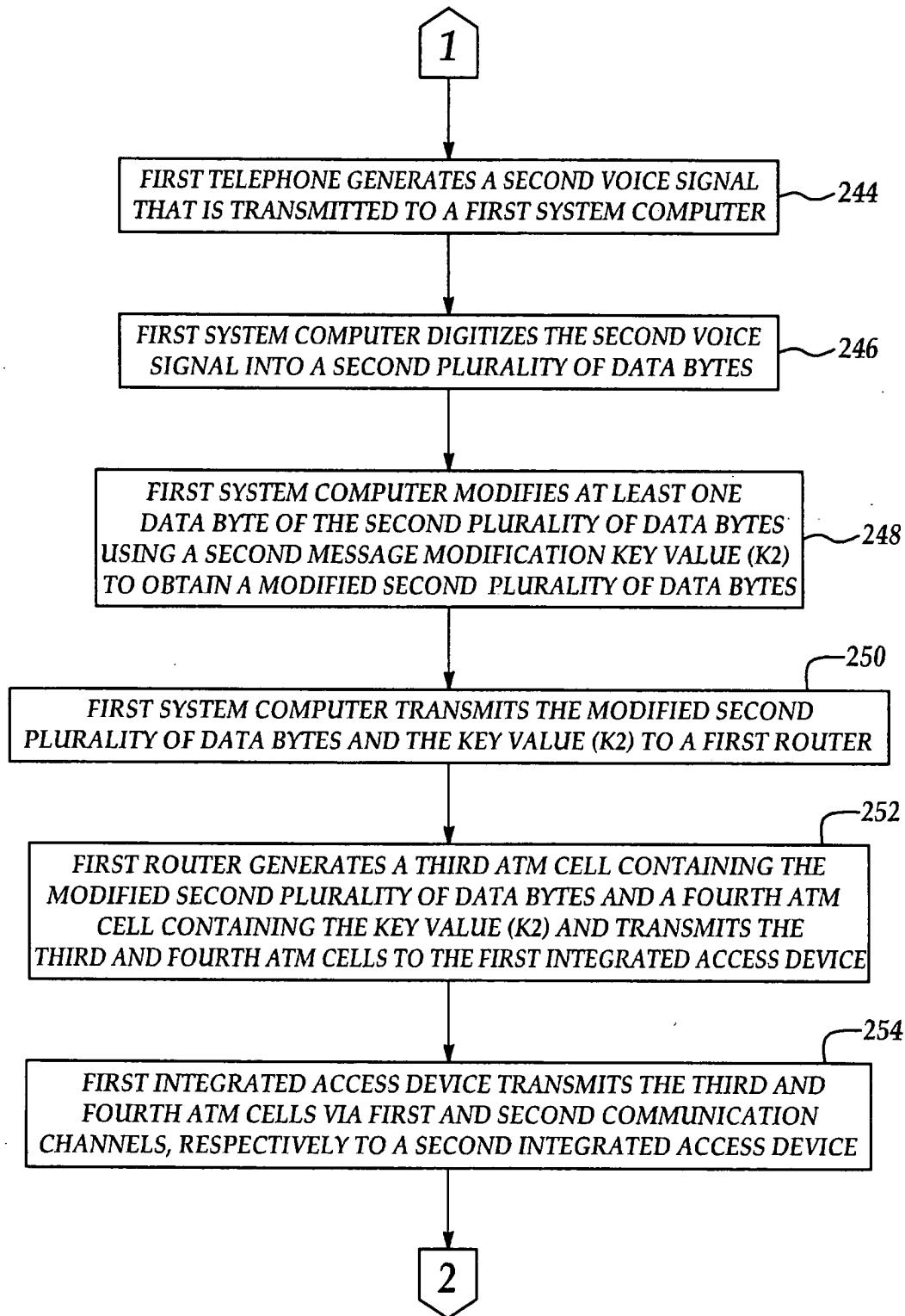


Figure 11B

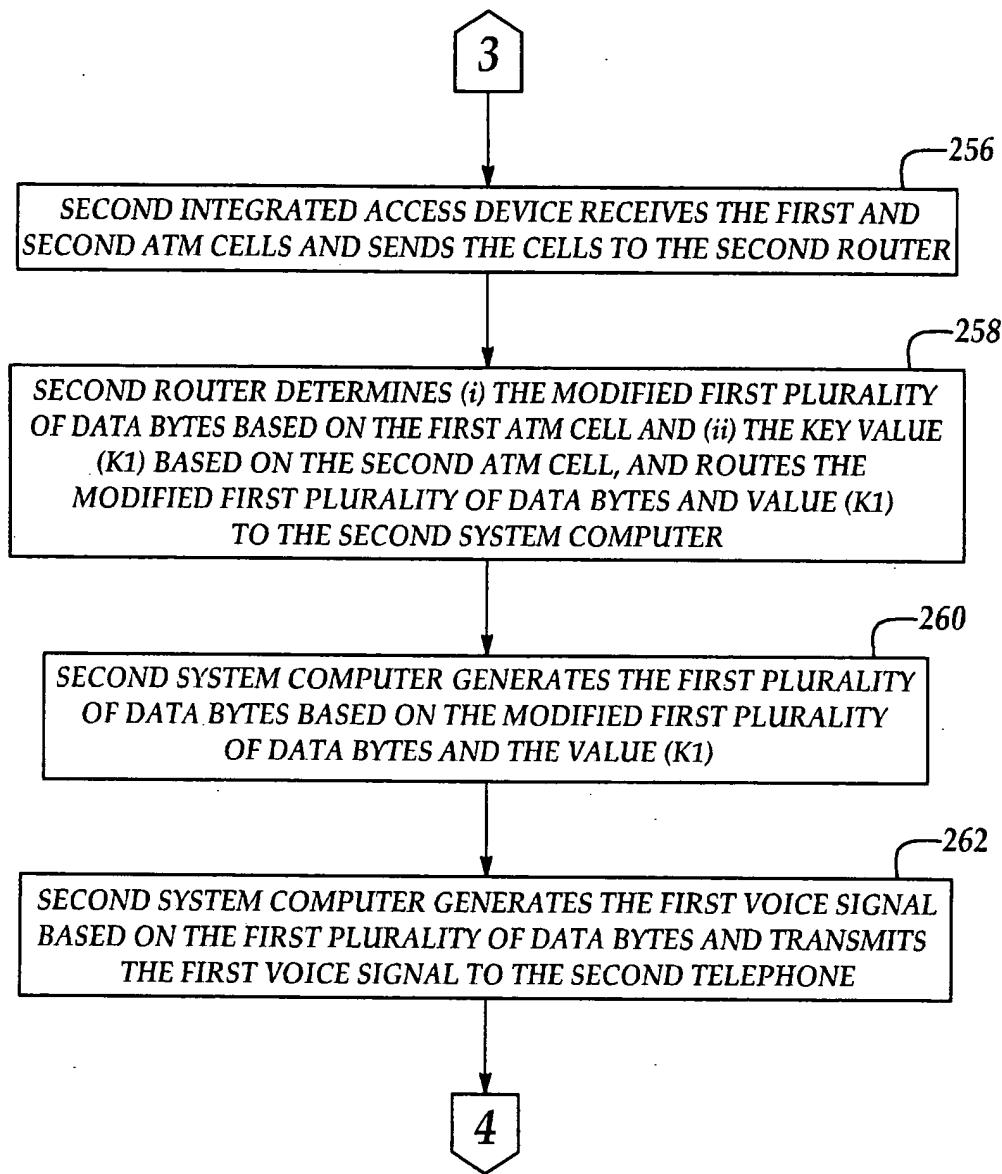


Figure 11C

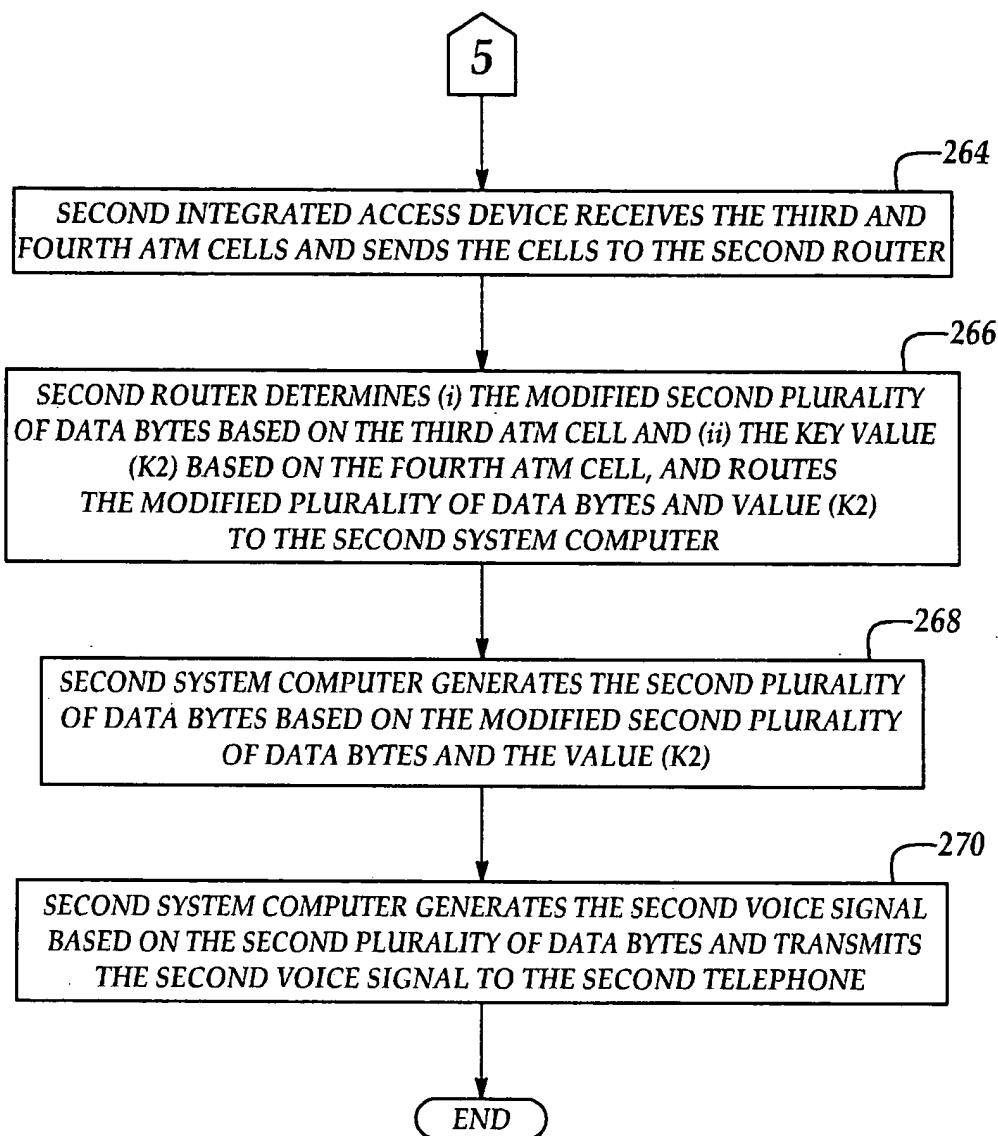


Figure 11D